What is claimed is:

Claims

1. A method for treatment of a disease or disorder in an organism, characterized by an abnormality in a signal transduction pathway, wherein the pathway contains a protein with an APB domain, comprising the step of disrupting or promoting interaction between said APB domain and its binding partner *in vivo*.

2. A method for treating a patient having a disease or disorder characterized by APB binding comprising the step of administering to said patient a therapeutically effective amount of an agent which decreases binding between an APB recognition region present in a first protein and an APB domain present in a second protein.

3. The method of claim 2, wherein said first protein is a receptor tyrosine kinase, said second protein is Shc, and said agent decreases one or more activities of said receptor tyrosine kinase.

4. The method of claim 3, wherein said receptor tyrosine kinase is selected from the group consisting of EGF, HER-2, and TrkA.

5. The method of claim 4, wherein said agent is a polypeptide comprising an amino acid region able to bind to said APB recognition region present.

6. The method of claim 5, wherein said amino acid region has at least 30% sequence similarity to said APB domain present in Shc.

7. The method of claim 5, wherein said amino acid region has at least 20% sequence identity to said APB domain present in Shc.

8. The method of claim 6, wherein said amino acid region comprises said APB domain present in Shc.

9. The method of claim 7, wherein said amino acid region comprises said APB domain present in Shc.

10. The method of claim 3, wherein said agent is a polypeptide comprising an amino acid region able to bind to said APB domain.

11. A method for diagnosis of a disease or disorder characterized by an abnormal level of interaction between an APB recognition region present in a first protein and an APB domain present in a second protein comprising the step of detecting said level of said interaction as an indication of said disease or disorder.

12. The method of claim 11, wherein first protein is a receptor tyrosine kinase and said second protein is Shc.

13. A method of assaying for agents useful for disrupting APB interactions or in the diagnosis of APB diseases or disorders comprising the step of measuring the ability of an agent to bind to an APB recognition region or an APB domain.

14. The method of claim 13, wherein said APB domain has an amino acid region with at least 30% sequence similarity to the Shc APB domain.

15. The method of claim 13, wherein said APB domain has an amino acid region with at least 20% sequence identity to the Shc APB domain.

16. A purified recombinant polypeptide encoding an APB domain comprising an amino acid sequence region of at least 30% sequence similarity or 20% sequence identity to the APB domain present in Shc, wherein said polypeptide is not full length Shc.

17. The polypeptide of claim 16, wherein said amino acid sequence region has at least 50% sequence similarity to said APB domain.

18. The polypeptide of claim 16, wherein said amino acid sequence region has at least 40% sequence identity to said APB domain.

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